BYLAW 2022-09

A BYLAW OF THE COUNTY OF ST. PAUL NO. 19 IN THE PROVINCE OF ALBERTA, TO AMEND THE LAND USE BYLAW 2021-13 UNDER THE JURISDICTION OF THE MUNICIPALITY.

Whereas, the *Municipal Government Act*, R.S.A. 2000, c. M-26, as amended ("the *Act*") provides that a Municipal Council may amend its Land Use Bylaw;

Whereas the Council of the County of St. Paul No. 19 wishes to amend its Land Use Bylaw as it affects certain lands;

Now Therefore the Council of the County of St. Paul No. 19, duly assembled, enacts as follows:

1. Bylaw No. 2021-13 the County of St. Paul No. 19 Land Use Bylaw, as amended, is hereby further amended as follows:

    a. Part 1.3 Definitions, is amended to insert the following definition in numerical order:

        "(46.1) **"Firewood Sales"** means the outdoor use of land primarily for the receipt, storage, sorting and preparation of logs for private sale as firewood. Firewood sales does not include equipment or facilities to process logs into dimensional lumber or other value-added products other than firewood and is considered to be a major home occupation in the Agriculture (A) District. This use must be secondary to the residential use of the parcel and shall not change the residential appearance of the land and buildings.

    b. Part 1.3 Definitions, is also amended to insert the definitions in numerical and alphabetical order into the Land Use Bylaw as defined in "Schedule A" attached hereto, which pertain to Alternate Energy.

    c. Part 7.17 is deleted in its entirety and replaced with the following:

        "1. All home occupations shall comply with the following requirements:
            a. In addition to a development permit application, each application for a minor home occupation or a major home occupation shall be accompanied by a description of the business to be undertaken in the dwelling or on the site, an indication of the anticipated number of business visits per week, and details for the provision of parking along with other pertinent details of the business operation.
            b. Home occupations shall not involve: activities that use or store hazardous material in quantities exceeding those found in a normal household; or any use that would, in the opinion of the development authority, materially interfere with or affect the use, enjoyment, or value of neighbouring properties.

c. There shall be no exterior signage, display or advertisement other than a business identification sign which shall not exceed 1 m² (10.8 ft²) in size.
d. No offensive noise, vibration, smoke, dust, odour, heat, glare, electrical or radio disturbance detectable beyond the boundary of the lot on which the home occupation is located shall be produced by the home occupation.
e. There shall be no outdoor business activity, or outdoor storage of material or equipment associated with the minor home occupation allowed on the site. Storage related to the home occupation shall only be allowed in either the dwelling or accessory buildings.
f. There shall be no outdoor business activity, or outdoor storage of material or equipment associated with the major home occupation allowed on the site. Storage related to the home occupation shall only be allowed in either the dwelling or accessory buildings.
g. Notwithstanding subsection (g), above, on parcels of land 4.05 ha (10.0 ac.) in area or greater in the Agriculture (A) District, the Development Authority may, at their discretion, allow a major home occupation to include outdoor storage of material or equipment associated with the home occupation on the site.

2. In addition to the requirements of subsection (1), above, a minor home occupation shall comply with the following regulations:
   a. Exterior alterations or additions to accommodate a minor home occupation shall not be allowed.
   b. A minor home occupation shall not employ any person on-site other than the occupants of the dwelling.
   c. A minor home occupation shall not have more than four (4) client or customer visits per week.

3. In addition to the requirements of subsection (1), above, a major home occupation shall comply with the following regulations:
   a. The number of non-resident employees working on-site shall not exceed two (2) on-site, non-occupant employees.
   b. No more than one commercial vehicle up to a size of a tandem truck, to be used in conjunction with the major home occupation, shall be parked or maintained on the site in a Country Residential One (CR1) or a General Urban (U) District. The parking space for the commercial vehicle shall be adequately screened and sited behind the principal building to the satisfaction of the Development Authority.
   c. Not more than four (4) commercial vehicles, each with one accessory trailer, to be used in conjunction with the major home occupation, shall be parked or maintained on a site in the Agriculture (A) District.
   d. Any interior or exterior alterations or additions to accommodate a major home occupation may be allowed at the discretion of the Development Authority, as along as such alterations comply with this Bylaw and the Alberta Safety Codes Act and the regulations made thereunder.

e. A major home occupation in the Agriculture (A) District shall not have more than ten (10) client or customer visits per week.
f. A major home occupation in the Country Residential (CR1) or the General Urban District (U) District shall not have more than five (5) client or customer visits per week.
g. the hours of a major home occupation may be limited by the Development Authority, but in no instance shall the hours of operation commence before 8 am or extend beyond 8 pm.
h. In the Agriculture (A) District, the where the major home occupation involves the outdoor storage or processing of goods or materials, the Development Authority, as condition of approval may:
    i. require the Registered Owner/applicant to enter into a Road Use Agreement with the County for the provision of dust control and maintenance/upgrading of roads used in direct relation to the operation;
    ii. restrict the locations where the outdoor storage of materials may take place;
    iii. require that outdoor lighting shall be designed such that lighting is not directed onto adjacent lots or roads. All outdoor lighting, with the exception of motion activated security lighting, must be turned off during hours outside of its hours of operation; and
    iv. require the planting of trees and shrubs, and may require the construction of berms, the planting of a solid hedge, other vegetative screen, fencing or any combination thereof to adequately buffer an adjacent site from a nuisance or adverse effect.–

d. Part 7.33 Solar Collectors and Part 7.36 Wind Energy Conversions Systems are deleted in their entirety and replaced with Schedule B and Schedule C attached hereto, which will be renumbered within the Land Use Bylaw 2021-13 appropriately.

e. Part 8.2(4)(g) is deleted and replaced with the following:
    “g. The total combined area of all residential use parcels shall not normally exceed 8.09 ha (20 ac), as shown in Figure 8. Such residential parcels may include any combination of farmsteads and vacant parcels, and may include fragmented residential parcels.”

f. Part 8.2(4)(h) is deleted and replaced with the following:
    “h. Notwithstanding (g) where the subdivision being proposed is to accommodate an existing farmstead, the proposed parcel(s) may exceed the maximum area identified in (g) if the additional land is required to accommodate existing farmstead improvements or site features. Farmstead improvements and site features may include:
        a. Single detached dwellings, barns, shops, corals, shelterbelts, driveways, utilities, private sewage disposal systems and dugouts, the proposed parcel size is the minimum amount necessary to accommodate on-site amenities, services, shelterbelts and/or woodlots, and areas with no agricultural value

b. Poor quality soils, wetlands, significant slopes or lands that would otherwise be fragmented from the balance of the quarter section."

2. The entire Land Use Bylaw is revised to correct minor formatting, spelling, and grammatical errors, where the correction will not impact the interpretation or intent of the regulations therein.

3. This Bylaw comes into full force and takes effect on the date of third and final reading.

Read a first time in Council this 10th day of May, A.D. 2022.

Advertised in Lakeland Today the weeks of May 31st and June 7th, 2022

Read a second time in Council this 14th day of July, A.D. 2022.

Read a third time and duly passed in Council this 14th day of July, A.D. 2022.

(original signed by Reeve, G. Ockerman) *(original signed by CAO, Sheila Kitz)*

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Reeve Chief Administrative Officer

Schedule A

Land Use Bylaw: Definitions

1.3 Definitions

(1) **Alternate Energy System** – A use producing energy fueled from sources such as sunlight, water, wind, geo-thermal, or organic materials, but not fossil fuels (liquids, gases, or solids), either directly, via conversion, or through bio-chemical / bio-mechanical / chemical mechanical / bio-chemical mechanical processes. Examples of such uses are, but not limited to, anaerobic digester, biodiesel, bioenergy, composting, gasification, geo-thermal facility, micro-hydro, solar energy conversion, wind energy conversion, and waste to energy;

(2) **Anaerobic Digester** – A facility or system designed to process animal manure, organic matter, or septic waste into a bio-gas fuel;

(3) **Bioenergy** – The development of energy stored in biological raw materials (wood, wood chips, bark, agricultural residue, animal manure, paper, cardboard, food and food waste, and organic yard waste, etc.), using mechanical, thermal, aerobic, anaerobic biological or chemical processes into solid, liquid or gas fuels;

(4) **Biodiesel** – A form of diesel fuel produced from animal fat or vegetable oil using chemical processes;

(5) **Blade** – A part of a Wind Energy Conversion System rotor which acts as a single airfoil, to extract kinetic energy directly from the wind;

(6) **Blade Clearance** – The distance from grade to the bottom of the rotor's arc;

(7) **Cogeneration** – The joint production, in a sequential process, of electricity (or mechanical energy) and useful thermal energy (hot water or steam);

(8) **Fermentation** – The process of extracting energy from the oxidation of organic compounds;

(9) **Gasification** – The process of converting organic or fossil fuel-based materials into nitrogen, carbon monoxide, hydrogen, and carbon dioxide to produce Syngas;

(10) **Horizontal Axis Rotor** – A wind energy conversion system, typical of conventional or traditional windmills;

(11) **Micro-hydro** – A hydroelectric power facility, producing up to 100kW of electricity, using the natural flow of water;

(12) **Nacelle** – The part of the WECS that includes a generator, gearbox or yaw motors and other operating parts that is installed at the top of the tower, and to which blades are attached, and is responsible for converting wind into energy;

(13) **Over Speed Control** – A device that prevents excessive rotor speed;

(14) **Rotor's Arc or Rotor Diameter** – The largest circumferential path travelled by a WECS's blade;

(15) **Solar Energy Conversion System** – A system using solar panels to collect and convert solar energy into electricity;

(16) **Solar Energy Conversion System, Individual** – A small scale SECS designed to collect and convert solar energy into electricity for a property owner's use on the site the SECS is located;

(17) **Total Height** – The height from grade (ground level) to the highest vertical extension of a WECS. In the case of a WECS with a horizontal axis rotor, total height includes the distance from grade to the top of the tower, plus the distance from the top of the tower to the highest point of the rotor's arc;

(18) **Tower** – The guyed or freestanding structure which supports the rotor above grade;

(19) **Vertical Axis Rotor** – A WECS where the rotor is mounted on an axis perpendicular to the earth's surface;

(20) **Waste to Energy** – A use that creates electricity and / or heat from the incineration of waste materials;

(21) **Wind Energy Conversion System (WECS)** – A machine designed to convert wind energy into mechanical or electrical energy. If the mechanical energy is used directly by machinery (pump or grinding stones) the machine is known as a Windmill. If the mechanical energy is converted to electricity, the machine is called a WECS;

(22) **Wind Energy Conversion System, Individual** – A small scale WECS designed to generate mechanical or electrical energy for a property owner's use on the site the WECS is located or adjacent to the site of use;

Schedule B

Land Use Bylaw: Commercial

7.ZZ Commercial Alternate Energy Development

Jurisdiction

The Province of Alberta and its agencies, regulates large scale / commercial energy projects. Under Sections 619 and 620 of the Municipal Government Act (MGA), the County's regulatory role is very limited. The MGA (Sec. 619(2)) is very clear that "A license, permit, approval or other authorization granted by the NRCB, ERCB, AER, AEUB or AUC prevails …" over "… any statutory plan, land use bylaw, subdivision decision or development decision …" of a municipality.

Purpose

The purpose of this section is to establish local standards for Commercial Alternate Energy (CAE) developments, including but not limited to solar, wind, biofuel, geo-thermal, fuel cell, micro-hydro, and other energy producing technologies whose purpose is to produce energy for the commercial market.

Provincial or Other Approvals

7.ZZ.1 Where Provincial or Federal Government or other Agency approval has been received for a CAE, a copy of the said approval and supporting documents, shall be submitted to the County. The supporting information provided to the Province, Federal Government or other Agency may be used to satisfy some or all the requirements of the County.

Protection of Agricultural Lands

7.ZZ.2 In compliance with the Agricultural Goals (1.5(a)), Objectives (2.1.1 and 2.1.2) and Policies (1 & 7) of the Municipal Development Plan. The:

a. siting of an CAE should take place on lands considered to be low production, or on poor agricultural land; and,

b. the use of high-quality agricultural soils should be discouraged.

General Requirements

7.ZZ.3 A development permit application shall be made for every title upon which the CAE is proposed.

7.ZZ.4 A site plan(s) shall be required for each title but a single, master set of supporting documents may be submitted for the overall project.

Public Consultation

7.ZZ.5 Prior to the submission of a development permit application the Applicant shall:

a. Arrange and host at least one (1) open house or public meeting, in the general area of the site proposed for the development;

b. Advertise the time, date, and place of the open house or public meeting:

i. in a newspaper circulating in the area of the proposed development, with the advertisement appear a minimum of two (2) weeks in advance of the public meeting,

ii. mail a written notice of the time, date, and place of the open house to all landowners within the area proposed for the development, and all landowners within 2 km (1.2 miles) of the boundary of the area proposed for the development;

c. The information provided at the public meeting shall be all the information that would be required as part of a Development Permit application for the proposal;

d. Opportunities for questions and input from the public shall be allowed;

e. A summary of the presentation and the public input shall be recorded.

7.ZZ.6 If public consultation was held as part of the Provincial approval process, the Applicant may submit the details of that consultation to the County to satisfy the requirements of Section 7.ZZ.5.

Safety

7.ZZ.7 All applications shall include:

a. An emergency response plan,

b. A detailed safety plan identifying any special rescue needs for workers that is beyond the local emergency responders' equipment and training capability.

7.ZZ.8 All applicable Safety Codes permits are required to be obtained.

Transmission Lines

7.ZZ.9 All collector lines, (less than 69kV) on the site of a CAE generating electrical power, shall be underground, except where the Development Authority approves otherwise.

Color and Finishes

7.ZZ.10 The buildings, supporting structures, and accessory buildings shall be painted or coated in in non-reflective and non-glossy tones and / or colors which minimize the obtrusive impact of a CAE.

7.ZZ.11 No brand names, lettering or advertising shall appear on buildings, towers, blades, support structures or accessory buildings and structures.

7,ZZ.12 The lettering or imagery that may appear on the lowest 3 m (10 ft.) of a tower or building of a CAE are the manufacturer's identification and contact information, the operator's identification and contact information, emergency contact information, and municipal symbol.

County Standards

7.ZZ.13 All roads, approaches, culverts, fences, or other County infrastructure to be replaced, constructed, upgraded, or reconstructed, shall be built to the County's standards current at the time of construction.

Noise

7.ZZ.14 During construction, operation, and decommissioning the sound level from any CAE shall not exceed 60dB(A), or more than 5dB(A) above the background noise, whichever is lower, as measured at the exterior of the closest inhabited Dwelling.

7.ZZ.15 The CAE can utilize berms, deflectors, sound blankets, walls, vegetation, fences, buildings, or other sound mitigative measures or any combination of these items to achieve the sounds levels described in 7.ZZ 14.

Referral

7.ZZ.16 Prior to deciding upon an application for a CAE, the Development Authority may refer for the review, comment, and any input provided from any of the following entities:

a. Alberta Utilities Commission,
b. Alberta Transportation,
c. Transport Canada,

d. NavCanada,
e. Alberta Electrical Systems Operator,
f. Adjoining municipal boundary if the application area is within 2 km (1.2 miles) of the municipal boundary, and,
g. any other person, departments, agency, commission, or government the Development Authority deems necessary.

Decommissioning

7.ZZ.17 Decommissioning and reclamation shall take place in compliance with the applicable provincial standards of the day the site is decommissioned. If no standards are in place at the time of a development permit application, the Applicant shall provide a plan outlining how the site will be decommissioned and reclaimed to the site's predevelopment state as part of the Development Permit application. The decommissioning plan shall include information on the following:

a. Treatment of buildings, footings, foundations, structures, and wires;

b. Reclamation of access roads, driveways, pathways, storm ponds, drainage systems, and other similar disturbances;

c. The type and suitability vegetation and / or ground cover to be planted and / or seeded;

d. Notice to be given to landowners and the County;

e. Containment of hazardous materials;

f. Site security;

g. Haul routes for disposal materials;

h. Control of noise, dust, particulates, and weeds;

i. Discussion of the timetable for decommissioning plan.

Financial Security

7.ZZ.18 As a condition of development approval, the County may require financial security, in the form satisfactory to the Development Authority, to ensure the Reclamation / Decommissioning Plan is implemented and to cover assignment and bankruptcy. The condition may include a periodic review of the security to ensure the amount is sufficient to implement the Reclamation / Decommissioning Plan.

Discontinuance

7.ZZ.19 Should an Alternate Energy Development discontinue producing power for a minimum of two consecutive years, or two cumulative years over a five-year period, the operator shall provide a report on the status of the System to the County. A review of the status report by the County may result in the request for the System to be decommissioned. Failure to comply with a decommissioning request may result in the issuance of a stop order by the County in accordance with the provision of the Municipal Government Act.

Solar Energy Conversion Systems

Applications

7.ZZ.20 Development Permit applications for a solar collector system shall be accompanied by the following information:

a. A plan showing the location of overhead and / or underground utilities on or adjacent to the subject lands;

b. Location and identification of environmentally sensitive areas on the project lands;

c. A detailed site plan showing:

a. the titled parcel(s),
ii. the location of the system on the parcel(s),
iii. the required setbacks,
iv. existing structures, if any,
v. the existing or proposed approach(es), and,
vi. the orientation of the solar collectors;

d. The application shall also include details regarding:

i. the system type,
ii. number of structures,
iii. height of structures,
iv. energy process,
v. grid connection,
vi. rated output in megawatts,
vii. signage,
viii. public safety,
ix. security measures,
x. a site suitability analysis,
xi. topography,
xii. soil characteristics,

xiii. agricultural capability,
xiv. potential impacts on agricultural land
xv. stormwater management plan,
xvi. surface drainage plan,
xvii. the results of the public consultation process,
xviii. weed control plan and,
xix. an environmental impact assessment prepared by a qualified professional demonstrating site suitability, impact mitigation and reclamation requirements;

Glare

7.ZZ.21 Solar panels must be located such that they do not create glare on neighboring properties or public roadways.

Projections

7.ZZ.22 Solar collectors mounted to the roof of a building or structure shall not extend beyond the outermost edge of the roof.

Height and Setbacks

7.ZZ.23 The maximum heights and setbacks of building mounted or ground mounted solar collection systems shall be subject to the height and setback requirements of the applicable Land Use District.

Fire Protection

7.ZZ.24 The spacing and height of solar collectors shall be designed to provide access for firefighting.

Density

7.ZZ.25 The location of and maximum number of solar collectors per Title may be regulated by the Development Authority.

Wind Energy Conversion Systems (WECS)

Applications

7.ZZ.26 An individual development permit application shall be submitted for each titled parcel.

7.ZZ.27 Development Permit applications for a wind energy conversion system shall be accompanied by the following information:

a. An accurate site plan showing and labeling the information outlined in this section and the location of overhead and / or underground utilities on or adjacent to the subject lands;

b. A digital version of the site plan showing the exact location and base elevation of each WECS in UTM coordinates with NAD datum, Zone X;

c. A visual representation of the WECS project including scale elevations, photographs and / or digital projections of the project showing height, rotor diameter, color and landscape;

d. A digital version of the site plan showing the exact location and base elevation of each WECS in UTM coordinates and NAD datum, Zone AA;

e. The specifications indicating:

i, the type of material used in tower, blade, and rotor construction,
ii. grid connections and size of any substations,
iv signage,
v. security measures,
vi. site suitability analysis,
vii. topography,
viii. soil characteristics,
ix. agricultural capability,
x. potential impacts on agricultural land
xi. stormwater management plan,
xii. surface drainage plan,
xiii. the location of any dwellings or structures on the property,
xiv. setbacks,
xv. weed control plan and,
xvi. an environmental impact assessment prepared by a qualified professional demonstrating site suitability, impact mitigation and reclamation requirements;

f. The manufacturer's specifications indicating:

i. the proposed systems rated output in megawatts,
ii. the safety features,
iii. the type of material used in the tower, blade, and rotor construction,
iv. foundation design and / or anchor design, including the location and anchoring of any guy wires;

g. An analysis of the potential for noise and shadow / flicker effect, both at the site of the installation, at the boundary of the property containing the development, and at any habitable residence within 2 km (1.2 miles) of any WECS in accordance with Alberta Utilities Commission Rule 12;

h. The results of the public consultation process;

i. The potential for electromagnetic interference;

j. The nature and function of over speed controls which are provided;

k. The status of the Applicant's circulation to NavCanada, Transport Canada, Alberta Utilities Commission, and any other government department or agency required for provincial approval;

l. Information on public safety;

m. Identification of any roads to be used or constructed for use during construction of the project and any impacts to the existing road system including required approaches from public roads;

n. A copy of the Wire Service Provider (WSP) approval if the WECS is proposed to be connected to the provincial power grid;

Density

7.ZZ.28 The Development Authority may approve one or more Individual WECS structures on a titled parcel having regard for:

a. The proximity to other adjacent land uses;

b. The overall density of the WECS project;

c. A consideration of the cumulative effect of all WECS approved or proposed within 5 km (3 miles) of the proposal;

d. The underlying utilities;

e. The information received through the circulation process, public consultation process and through the redistricting public hearing.

Setbacks

7.ZZ.29 The setback distance between a WECS and a dwelling, within and without the project boundary, shall be as established by the Alberta Utilities Commission through the calculations of AUC Rule 12.

7.ZZ.30 The WECS's tower shall be setback from the boundary of all County Road rights of way (developed or undeveloped), a minimum distance equal to the total height of the tower plus 10 percent.

7.ZZ.31 A WECS shall be setback not less than 7.5 m (24.6 ft.) from all other property lines, as measured from the rotor's arc (rotor diameter).

7.ZZ.32 If the tower utilizes guy wire anchors, the anchors, but not the tower, may be located no closer than 3.0 m (10 ft.) to the property lines.

Minimum Blade Clearance

7.ZZ.33 The minimum vertical blade clearance from grade shall be 7.6 m (25 ft.) for a WECS employing a horizontal rotor.

Tower Access and Safety

7.ZZ.34 To ensure public safety, the Development Authority may require that:

a. If the tower is climbable, a security fence with a lockable gate, not less than 1.9 (6 ft.) in height, shall be installed around a WECS tower;

b. No ladder or permanent tower access device shall be located less than 3.7 m (12 ft.) from grade;

c. A locked device shall be installed on the tower to preclude access to the top of the tower;

d. Additional access control features or such additional safety mechanisms or procedures may be required by the Development Authority;

e. The use of tubular towers, with locked door access, will preclude the above requirements.

Speed Control

7.ZZ.35 The system shall be equipped with manual and automatic over speed controls.

7.ZZ.36 The conformance of rotor and over speed control design and fabrication to good engineering practices shall be certified by a licensed mechanical, structural or civil engineer.

Electro-magnetism

7.ZZ.37 The system shall be operated such that any electro-magnetic interference is dealt with as per the permit issued by the AUC. If electro-magnetic interference is determined during operation, the developer will work with the affected stakeholder (s) to mitigate any issues.

Other Energy Systems

Application

7.ZZ.38 Development Permit applications for all other types of Alternate Energy production systems shall be accompanied by the following information:

a. An accurate site plan showing and labelling:

i. the legal location(s) of the proposed system,
ii. the location of the proposed system on the property or properties in relation to property lines and existing or proposed buildings or structures,
iii. the location of the existing or proposed access,
iv. the identification of any sensitive environmental features,
v. the topography of the site,
vi. the method of exporting the energy off site – power lines, pipelines, vehicles, etc.

b. Detailed information on the type of facility, structure, or system of the energy process involved

c. The manufacture's specifications, indicating (if applicable)

i. the rated output in megawatts or gigajoules, and,
ii. the safety features;

d. Any information regarding public safety;

e. Information or verification of:

i. the volume of water, if required,
ii. the source of the water, if required,
iii. the reclamation process of any water utilized by the system,
iv. the stormwater management system, if required,
v. the method of disposal of any waste material generated by the system,
vi. the generation and mitigation of any noise, vibration, odor, light, particulate that results from the production process;

f. An analysis of the potential fire, explosive, or other hazards of the proposed system;

g. A Traffic Impact Assessment or other information / analysis of traffic volumes and any impacts to the local road system;

Setbacks

7.ZZ.39 The buildings and structures of non-solar and non-wind based Alternate Energy Development(s) shall comply with all the setbacks established in the district in which it is located with the following modifications:

a. A minimum of 250 m (820 ft.) from any residential dwelling, food establishment, institutional use or public use, facility or building;

b. A minimum of 100 m (328 ft.) from the boundary of any creek, stream, river, lake shore or water body.

Geothermal Systems

7.ZZ.40 All geothermal systems shall be Closed Loop systems. Open Loop systems (pump & dump) are not allowed.

7.ZZ 41 Must comply with CSA-C448 and subsequent amendments. Exceptions may be allowed, at the discretion of the Development Authority, provided documented proof is provided showing that the exception meets or exceeds CSA-C448 standard.

7.ZZ.42 Installations must be stamped by a qualified Professional Engineer registered under the "Engineering, Geological, or Geophysical Professions Act' of Alberta or have the system and installer certified by the Canadian GeoExchange Coalition (CGC) or other future governing body having jurisdiction within the Province of Alberta.

7.ZZ.43 Heat-transfer fluids within a geothermal system shall be of the most environmentally friendly type available at the time of installation~~ such as propylene glycol~~. In no case may an ethylene glycol-based fluid be used nor shall any flammable or combustible agent such as methanol, ethanol, natural gas, or propane be used.

Conditions of Approval for Any CAE

7.ZZ.44 Depending on the type of CAE proposed, the Development Authority shall consider, as limited by Sections 619 and 620 of the Municipal Government Act, or not as the case may be, in addition to any other conditions authorized under other sections of this Bylaw or Statutory Plan, attaching conditions related to any of the following:

a. Entering into a development agreement with the County in accordance with the Municipal Government Act;

b. Preparing by qualified professionals and at the Applicant's expense, all the necessary studies, maps, diagrams, reports, and analysis, whether printed and / or digital, required in support to their application;

c. Confining all surface drainage on site and protecting any adjacent water bodies from run-off;

d. Treating any wastewater on site and / or disposing of any wastewater as required by the County;

e. Disposing of any non-wastewater liquids in accordance with the requirements of the County;

f. Storing / containing all feedstock and materials within buildings or containment facilities;

g. Disposing of any other waste materials;

h. Restricting vehicle / truck traffic, whether owned or contracted by the Applicant, that transport construction material, raw material or feedstock or finished / processed goods associated with the development to designated haul routes and times through an agreement and the provision of securities;

i. Dust control measures;

j. Sound control measures;

k. Installing underground all energy transmission (whether electrical, liquid or gas) lines from the site to the applicable collection point;

l. Securing all necessary approvals from any other agency with jurisdiction on the type CAED proposed and providing the County with a copy of the approval required;

m. Identifying and providing for a staged or phased development;

n. Placing restrictions on parts or elements of the proposed development, such as but not limited to locations, heights, colors, densities, setbacks, etc.;

o. Constructing or paying for the construction of any new or the upgrading of any existing municipal infrastructure related to the project, such as but not limited to roads, approaches, signage, water lines, and sewage lines;

p. Requiring ground cover, weed control, grading, soil erosion control emergency / fire suppression, and drainage measures;

q. Specifying time periods to:

    i. start, suspend, and complete construction activities,
    ii. trigger decommissioning activities;

r. Providing for the amenity of the site or development through improvements such as landscaping, berming, and buffering; and,

s. Any other condition or conditions necessary to give form and effect to the project.

Schedule C

Land Use Bylaw: Regulations

7.XX Alternate Energy Systems, Individual

Purpose

The purpose of this section is to establish standards for Individual Alternate Energy (IAE) developments, including but not limited to solar, wind, biofuel, geo-thermal, fuel cell, micro-hydro, for use by households, agricultural operators, or individual business to meet some or all of their energy needs on the subject site, or a site immediately adjacent to the subject site.

General Requirements for All Individual Systems

7.XX.1 No re-districting is required for a lot or site for an Alternate Energy System, Individual.

7.XX.2 A development permit is required for any Alternate Energy System, Individual, and such Systems shall be considered a Discretionary Use.

7.XX.3 All applicable Safety Codes permits are required.

7.XX.4 If the subject site is located within lands subject to Alberta Transportation's jurisdiction, an approved Roadside Development Permit from Alberta Transportation shall be required and included with the Development Permit application. (For the purposes of Section 683.1(1) of the Municipal Government Act, an application shall not be considered as received unless the Roadside Development Permit is included with the application.)

Solar Energy Conversion Systems Applications

7.XX.5 In addition to the requirements of Part 3 of this Bylaw, the application shall include:

a. Information of any impacts to the County road system such as, but not limited to

i. Identification of the roads to be used to construct and operate the development,
ii. number, type of vehicle movements, and load weights,
iii. expected time-period of movements: short-term, periodic, or ongoing,
iv. need for any upgrading of an existing road,
v. need for new approach or expansion of existing approach.

b. For systems that are to be tied into the grid, evidence that the Utility Operator has been informed of the Applicant's intent to install an interconnected customer-Owner generator.

c. Documentation demonstrating that the system is designed to produce energy primarily for the sole use and consumption on-site by the landowner, resident, occupant, or business;

d. The manufacturer's specifications for the proposed system and rated output in kilowatts;

e. A site plan showing the location, setbacks, and orientation of the solar collectors;

f. For panels to be affixed to the wall of a building or accessory structure,

i. a description of how the panels are to be mounted or affixed,
ii. the maximum projection from the wall, and,
iii. the structural capacity of the building and / or wall to support the proposed development;

g. For free-standing solar panels,

i. a description of the proposed ground mount design,
ii. the clearance to the bottom of the collectors, and,
iii. the maximum height from existing grade,
iv. the method of vegetation / weed control;

Glare

7.XX.6 Solar panels must be located such that they do not create glare onto neighboring properties or public roadways.

Mounting and Projection

7.XX.7 Solar collectors mounted to the roof of a building or structure shall not extend beyond the outermost edge of the roof.

7.XX.8 The maximum projection of any solar collectors affixed to a wall of a building or structure in a residential District shall be:

a. 1.5 m (5 ft.) from the surface of a wall that faces a rear lot line; and,

b. In all other cases 0.6 m (2 ft.) from the surface of any other wall.

Setbacks

7.XX.9 Freestanding solar collectors shall be subject to the setback requirements of the applicable Land Use District or as required by Alberta Transportation, whichever is greater.

Height

7.XX.10 The maximum height of a freestanding solar collector shall not exceed 2.4 m (8 ft.).

7.XX.11 For freestanding solar collectors, sufficient clearance shall be retained under the structure to allow for weed control, grass cutting and for fire suppression.

Density

7.XX.12 The location of and maximum number of solar collectors per Title may be regulated by the Development Authority.

Wind Energy Conversion Systems (WECS)

7.XX.13 Development Permit applications for a wind energy conversion system shall be accompanied by the following information:

a. Documentation demonstrating that the system is designed to produce energy primarily for the sole use and consumption on-site by the landowner, resident, occupant, or business;

b. The manufacturer's specifications indicating:

v. the proposed systems rated output in kilowatts,
vi. the safety features,
vii. the sound characteristics,
viii. the type of material used in the tower, blade, and / or rotor construction;

c. A site plan showing the location and setbacks of the WECS on the property;

d. Drawings, drawn to scale, of the wind turbine structure, including the tower, base, footings, and anchoring method. An engineering analysis of the Wind Turbine Tower showing compliance with the International Building Code and certified by a licensed professional mechanical, structural, or civil engineer shall also be submitted. Documentation of this analysis supplied by the manufacturer shall be accepted.

e. The potential for electromagnetic interference;

f. The nature and function of over speed controls which are provided;

g. The specifications on the foundations and / or anchor design, including the location and anchoring of any guy wires;

h. The location of any existing buildings or improvements on the property in relation to the WECS;

i. Evidence of compliance with applicable air traffic safety regulations. (Transport Canada must be notified of the location – latitude and longitude – and height of all wind turbine installations through the aeronautical clearance application process.)

7.XX.14 Prior to deciding upon an application for a WECS, the Development Authority may refer for the review and comment, and consider any input received from the following entities:

a) Alberta Utilities Commission,
b) Alberta Transportation,
c) Alberta Utilities Commission and the Alberta Energy Systems Operator for applications proposing to connect to the grid,
d) Transport Canada,
e) Navigation Canada, and
f) Any other person, departments, agency, or commission the Development Authority deems necessary.

7.XX.15 Individual WECS shall comply with the following standards:

a) There shall be a limit of one WECS per Titled area.

Setbacks

b) The WECS's tower shall be setback from all property lines a minimum distance equal to the height of the tower, or the minimum setbacks set out in the applicable Land Use District, or as required by Alberta Transportation, whichever is greater.

c) If the tower utilizes guy wire anchors, the anchors, but not the tower, may be located no closer than 3.0 m (10 ft.) to the property lines.

Height

d) A WECS tower shall not exceed a maximum height of:

a. 12.1 m (40 ft.) on a parcel of less than 0.4 ha (less than 1 acre),
ii. 19.8 m (65 ft.) on a parcel 0.4 – 2.0 ha (1 – 5 acres),
iii. 24.4 m (80 ft.) on a parcel greater than 2.0 ha (5 acres).

Finish and Markings

e) The tower and supporting structures shall be painted or coated in tones and / or colors matching the existing tones and / or colors of the principal building that are non-reflective and non-glossy.

f) Brand names or advertising associated with the system or the system's installation shall not be visible from any public place.

Illumination

g) Small Wind Turbine Towers shall not be artificially lit except as required by NavCanada.

Speed Controls

h) The system shall be equipped with manual and automatic over speed controls.

i) The conformance of rotor and over speed control design and fabrication to good engineering practices shall be certified by a licensed mechanical, structural or civil engineer.

Tower Access and Public Safety

j) If the tower is climbable, a security fence with a lockable gate, not less than 1.9 (6 ft.) in height, shall be installed around a WECS tower;

k) No ladder or permanent tower access device shall be located less than 3.7 m (12 ft.) from grade;

l) A locked device shall be installed on the tower to preclude access to the top of the tower;

m) Additional access control features or such additional safety mechanisms or procedures may be required by the Development Authority;

n) The use of tubular towers, with locked door access, will preclude the above requirements.

Electro-magnetism

o) The system shall be operated such that any electro-magnetic interference is dealt with as per the permit issued by the AUC. If electro-magnetic interference is determined during operation, the developer will work with the affected stakeholder (s) to mitigate any issues.

Output

p) The system's maximum power output shall not exceed 5 kilowatts.

Noise Level

q) The noise generated by the system shall not exceed 60dB(A) or exceed more than 5dB(A) above background sound, as measured at the exterior of the closest inhabited Dwelling (at the time of installation or during operation), for wind speeds below 10 m per second (22 mph) and except short-term event such as utility outages and / or severe windstorms.

Discontinuance

r) Upon abandonment or termination of the system's use, the entire facility, including the system's tower, turbine, supporting structures and all equipment, shall be removed and the site shall be restored to its pre-WECS condition.

Applications for Other Individual Alternate Energy Systems

7.XX.16 Development Permit applications for all other types of Alternate Energy production systems shall be accompanied by the following information:

a) Documentation demonstrating that the system is designed to produce energy primarily for the sole use and consumption on-site by the landowner, resident, occupant, or business;

i. An accurate site plan showing and labelling:

vii. the location of the proposed system on the property,
viii. the location of the proposed system in relation to any other buildings or structures on the property,
ix. the location of the existing or proposed access,
x. detailed information on the type of facility, structure, or system, and
xi. the energy process involved;

ii. The manufacture's specifications, indicating (if applicable)

iii. the rated output in megawatts or gigajoules,
iv. the safety features, and,
v. the sound characteristics;

iii. Information on public safety regarding such aspects as fire hazards, chemicals used, storage of hazardous materials, exposure to corrosive or and hazardous fumes;

iv. Information or verification of:

vii. the volume of water, if required,
viii. the source of the water, if required,
ix. the reclamation process of any water utilized by the system,
x. the stormwater management system, if required, and,
xi. the method of disposal of any waste material generated by the system;

Geothermal Systems

7.ZZ.17 All geothermal systems shall be Closed Loop systems. Open Loop systems (pump & dump) are not allowed.

7.ZZ 18 Must comply with CSA-C448 and subsequent amendments. Exceptions may be allowed, at the discretion of the Development Authority, provided documented proof is provided showing that the exception meets or exceeds CSA-C448 standard.

7.ZZ.19 Installations must be stamped by a qualified Professional Engineer registered under the "Engineering, Geological, or Geophysical Professions Act' of Alberta or have the system and installer certified by the Canadian GeoExchange Coalition (CGC) or other future governing body having jurisdiction within the Province of Alberta.

7.ZZ.20 Heat-transfer fluids within a geothermal system shall be of the most environmentally friendly type available at the time of installation. In no case may an ethylene glycol-based fluid be used nor shall any flammable or combustible agent such as methanol, ethanol, natural gas, or propane be used.

Conditions of Approval

7.ZZ.21 Depending on the type of AES-Individual proposed, the Development Authority shall consider, as limited by Sections 619 and 620 of the Municipal Government Act, or not as the case may be, in addition to any other conditions authorized under other sections of this Bylaw or Statutory Plan attaching conditions related to the following:

a) Entering into a development agreement with the County in accordance with the Municipal Government Act;
b) Preparing by qualified professionals and at the Applicant's expense, all the necessary studies, maps, diagrams, reports, and analysis, whether printed and / or digital, required in support to their application;

c) Confining all surface drainage on site and protecting any adjacent water bodies from run-off;

d) Treating any wastewater on site and / or disposing of any wastewater as required by the County;

e) Disposing of any non-wastewater liquids in accordance with the requirements of the County;

f) The methods of disposing of any other waste material;

g) Storing / containing all feedstock and materials within buildings or containment facilities;

h) Restricting vehicle / truck traffic, whether owned or contracted by the Applicant, that transport construction material, raw material or feedstock or finished / processed goods associated with the development to designated haul routes and times;

i) Require the entering of a road use agreement and the provision of security;

j) Constructing or paying for the construction on any new road or approach required for the development and / or upgrading or paying for the upgrading of an existing road or existing approach required for the development;

k) Dust control;

l) Sound control;

m) Installing underground all energy transmission (whether electrical, liquid or gas) lines from the site to the applicable collection point;

n) Securing all necessary approvals from any other agency with jurisdiction on the type AES proposed and providing the County with a copy of the approval required;

o) Identifying and providing for a staged or phased development;

p) Placing restrictions on parts or elements of the proposed development, such as but not limited to locations, heights, colors, densities, setbacks, etc.;

q) Constructing or paying for the construction of non-municipal infrastructure related to the project;

r) Requiring ground cover, weed control, grading, soil erosion control emergency / fire suppression, and drainage measures;

s) Specifying time periods to:

iii. start, suspend, and complete construction activities,
iv. trigger decommissioning activities;

t) Providing for the amenity of the site or development through improvements such as landscaping, berming, and buffering; and,

u) Any other condition or conditions necessary to give form and effect to the project.